

Methodology for Identifying Spiritual-Cultural Deformation Factors and Their Evaluation Criteria

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ABSTRACT

This article discusses cultural and spiritual values, national mentality traits, and long-established traditions, which are considered essential identifiers of a nation's identity. It reveals the tendencies of deformation affecting these values in today's information-driven society. From a socio-philosophical perspective, the research examines the results obtained during the study, applying a mathematical method aimed at identifying interrelations between the stages of the issue's development. Moreover, a model was developed that illustrates the transition from specific to general aspects of the issue under consideration.

Keywords: Spiritual and Cultural Deformation; National Mentality; Traditions; Values; Human Consciousness; Its Way of Thinking; Education; Upbringing; Family Environment; Global Integration; Transformation.

1. Introduction

The 21st century has entered our social life not only as an era of technological advancement but also as a period that has fundamentally transformed human consciousness, thinking, outlook, and spiritual-cultural lifestyle. In particular, it would be fair to say that the Western mentality has transformed the lives of the peoples of the East, who have a high sense of Eastern culture, national values, spiritual elevation, and collective unity, and has created a field (aura) of propaganda aimed at increasing the tendency towards a common culture, that is, "mass culture," and spiritual marginalization. "In fact, in today's globalized world - where new threats such as the risk of "mass culture," dependency mentality, and the loss of moral and ethical values are emerging - preserving national identity should be considered a matter of survival for every nation but, not everyone fully comprehends the gravity of this situation" [1].

1.1. Study objectives

The following are the objectives that this study makes:

- (i) Dynamics of spiritual and cultural deformation processes: This research paper presents ideas on the factors that cause spiritual and cultural deformation and their negative consequences.
- (ii) We attempted to conduct mathematical modeling to assess the dynamics of spiritual deformation processes and generalize the results of surveys conducted among young people based on formulas.
- (iii) We conducted studies to assess the potential economic and social consequences that could arise as a result of the impact of deformation processes on the future of society and the state.

Especially among the youth - whose outlook and way of thinking are often unstable and whose life goals remain fluid - it has become increasingly difficult to comprehend the essence of centuries-old traditions and the significance of national spiritual and cultural values in human life. A strong inclination toward Western mentality persists among them. This gives rise to several critical questions:

- why are the characteristics of a nation that have been established for thousands of years at risk of spiritual and cultural deformation in the next 30-40 years?
- why is it so difficult for people to maintain their national mentality in the new world order?
- why does the gap between those who advocate for the preservation of national values and those who oppose them remain so high?
- why have state-level efforts to prevent such negative tendencies failed to produce sufficient results?

One aspect of the issue is the lack of scientific and analytical research that could provide clear answers to these questions. The other is that existing studies often fail to present well-reasoned conclusions or sufficiently precise, scientifically grounded hypotheses. In this work, we aim to address this gap by referring to selected research hypotheses and attempting to reveal the interconnections between them.

2. Literature Review

J. Mamanov & T. Turgunov are conducting research on the variability of modern moral consciousness, its influence on spiritual culture. A.A. Zuparova, who conducted research on determining the inclination of young people to Western culture, spirituality, and traditions, classified the factors of young people's alienation from national identity and showed the stages of its development. G.Q. Tulaganova, stating that the formation of a personality is dynamic, and there is no moderation in its development, since the actions of adolescents are reflected in the behavior that exists in them and are changeable, reveals the psychological aspects of the attitude of young people to national values.

3. Research Methodology

In identifying the factors contributing to the socio-cultural deformation of youth in the modern world, the "Chi-squared (χ^2) criterion" method was applied. The study provides a socio-philosophical analysis of young people's attitudes toward national identity. In the process of applying the method, subjective factors negatively affecting the nation's gene pool, their types, patterns of movement (dislocation), mechanisms of influence, and the coefficient of correlational relationships between them are revealed. The dynamics of the issue's transformation are examined through methods of analysis and synthesis. The root causes of the problem are classified, meaning that the phenomenon is broken down into its structural components and the results are synthesized based on their level of complexity.

4. Analysis and Results

Recent studies indicate that special attention is being paid to the role of the family in the upbringing of youth, attempting to link a person's spiritual development with their sense of responsibility toward the fate of the homeland and the centuries-old chain of values. This approach is undoubtedly valid to some extent, as the family serves as the dominant environment where values are formed. The upbringing that children receive within this stronghold accompanies them throughout their lives. If such education is rooted in national values, the individual grows up loyal to their identity; if not, they tend to adopt and favor external mentalities. There are certain commonalities among the studies examining young people's inclinations toward Western culture, spirituality, and

traditions, which allow these tendencies to be grouped into multiple conceptual categories. Specifically, as noted by A.A. Zuparova, the alienation of youth from their national identity can be attributed to the following factors*:

1. 62.2% of young people spend their free time aimlessly and unsupervised in public spaces;
2. 42.8% of parents display a lack of attention to their children's upbringing;
3. 48.7% of children do not receive adequate moral and educational guidance [2].

This statistical data clearly indicates that the family plays a primary role in the spiritual development of youth. However, the researcher approaches the issue from a structural perspective, without delving into the formative and developmental stages of the problem or addressing its contextual and specific manifestations. Moreover, no analysis is provided regarding the similarities or differences between family values and collective traditions. This, in turn, leaves an important question unanswered: "Which specific values, formed within the family, should be emphasized?"

According to G.Q. Tulaganova, personality development is dynamic in nature and lacks stability. This is due to the fact that adolescents' behaviour reflects their existing patterns of conduct, which are inherently variable. Therefore, she argues that a values-based approach is essential when raising youth into spiritually mature individuals. However, she concludes that such an approach should first and foremost take into account the psychological characteristics of the youth.

When assessing the indifference of young people toward national values, Tulaganova focuses on the following behavioural indicators:

1. The emergence of constitutional imbalances that lead to shifts in inclinations or the growth of abnormal desires, which ultimately results in non-conformity with societal norms;
2. A lack of parental authority in cases where the moral and ethical behaviour of the parents contradicts societal expectations;
3. The emergence of a protest response in children due to perceived injustice by parents or caregivers;
4. Attempts to resolve deep personal conflicts that manifest in impulsive behaviour and are difficult to manage [3].

Overall, Tulaganova's distinctive approach represents an individualized understanding of the issue, which may be regarded as a valuable theoretical contribution—particularly in tracing the shift from general to specific within the subject matter. However, it is worth noting that her attribution of behavioural deviations solely to family upbringing constitutes a limitation in her analysis. That is, the development of deviant behaviour in children cannot be explained by familial or parental factors alone; societal influences also play a significant role in this process.

Based on the above-mentioned research findings and the hypotheses proposed therein, it can be concluded that the increasing prevalence of deviant behaviour among individuals—particularly youth—along with tendencies toward cosmopolitanism, elements of spiritual marginalization, and the escalation of "mass culture" as a sign of cultural degradation, are still not being effectively addressed. This is largely due to the fact that many existing studies in this

*The following statistical figures are taken in relation to the overall percentage of the conducted survey, with each question being considered at a 100% level.

field exhibit a low degree of applicability, and the methodologies employed require modernization in accordance with contemporary standards. There are both objective and subjective reasons for this situation.

Firstly, the current trend in our society indicates a declining emphasis on the teaching of the humanities, while interest in exact, natural, and applied sciences is rising. Undoubtedly, this reflects the demands of the modern era. Economic development is primarily driven by progress in these fields, and our increasingly technology-dependent society relies heavily on applied sciences. There is no dispute in this regard. However, it must also be remembered that all development, in essence, is for the sake of the individual and their spiritual growth. Otherwise, a society that initially suffers spiritual degradation will inevitably face material decline over time.

Secondly, the funds allocated by the state for the development of the humanities-particularly for scientific innovation projects and fundamental research grants-are limited and constitute less than 25% of those allocated to the exact sciences. While it is true that the economic returns from the humanities may not be immediately visible over a five-year period, the long-term benefits are immeasurable. For example, it has been proven many times in history that raising just one person who is patriotic, who loves his people and homeland, and who considers serving them to be his highest happiness, is beneficial to society compared to dozens, if not hundreds, of spiritually poor, culturally inferior people who have high "economic wealth."

Thirdly, in our society, in most families, the primary goal has become "earning money." As a result, values such as gaining knowledge, studying the legacy of ancestors, behaving as a noble person, being honest, offering help to others, respecting the elderly, valuing the younger generation, highly respecting parents, preserving family sanctity, and striving for virtues like modesty, kindness, and humility have been relegated to a secondary (or even tertiary) level. This is certainly not a good situation, as such an approach will have its negative consequences.

Fourthly, there are certain characteristics intrinsic to human beings that can only be developed through education, upbringing, and the study of social-humanitarian sciences. These include intellectual ability, striving for honesty, conscientiousness, inviting faith, integrity, respect, the habit of doing good to others, prioritizing the collective interest over personal needs, patriotism, and so on. If we care about the future of our society and want our children to continue our efforts, we must educate the next generation in the spirit of national and universal values, and we must develop mechanisms to protect their view from the disinformation and misleading influences of modern-day ideologies. Today, identifying the factors that negatively affect the consciousness of the youth, especially clarifying the ideological and political attacks aimed at alienating them from their identity, and building an ideological immunity against the alluring appeal of such harmful phenomena, must become a primary goal for society. The methodology for combating these influences must have a universal character. Only in this way we can preserve our national identity and ensure that our children grow into a worthy generation, loyal to the legacy of their ancestors. As part of this effort, a survey on the topic "How important are material and spiritual values to you?"¹ was conducted. The survey was carried out across general secondary schools, higher education institutions, and local communities.

¹In selecting respondents for the questionnaire, it was determined that their age should be between 15-25 years; social background was considered irrelevant; economic status should be from a middle-class family; outlook was not considered significant; attitude toward knowledge should be at an average level of understanding; gender was not important. The main criteria for the subjects participating in the questionnaire are as follows: the ability to express an opinion consciously; the ability to answer questions with an understanding of the content; possession of their personal opinion; the ability to participate in the questionnaire effectively was also taken into account.

In the research process, the questionnaires were designed to transition from general to specific categories, taking on a unique character, with each question considered as a separate criterion. The responses given by the respondents are viewed as general in nature, meaning that no answer repeats another, nor does one answer act as a supplement to another. On the contrary, each question is framed with a clear objective, and efforts are made to establish an integrative connection between the questions. In this way, distinct characteristics are identified through the overall response to all the questions.

When evaluating respondents' attitudes, a 100% scale is used, and four questionnaires participate in the survey. Each questionnaire is assessed as a separate criterion, and for each question, five responses are rated between 0-20%, with the total of five responses accounting for 100%. Thus, the typological analysis of the research findings led to the creation of the following table (see table 1).

Table 1. The typological analysis of the research

The research topic: How important are material and spiritual values to you?					
A total of 150 respondents are participating in the survey.					
№	Survey	Samarkand Region			The average percentage of each answer given by respondents
		20th General Secondary School	Samarkand State Institute of Architecture and Civil Engineering	The neighbourhood of businessmen	
		10th-11th grade students	2nd-4th year students	Individuals aged 15-25	
		Number of respondents – 50	Number of respondents – 50	Number of respondents – 50	
1. Where is the most valuable place for you?					
a)	Homeland	10	7	5	14.6
b)	Family	12	9	14	23.3
s)	Neighborhood	7	4	16	18
d)	A comfortable area to live in	16	22	10	32
e)	It is difficult to give a precise answer	5	8	5	12
The total number of respondents who participated in one question%		100	100	100	99.9
2. What does self-awareness give to a person?					
a)	Allows to know the ancestry and the history of origin	16	11	18	30
b)	Allows to develop as an individual and directs towards perfection	7	9	10	17.3

s)	Through self-awareness, a person realizes their distinction from other creatures	5	12	4	14
d)	This concept is the uniqueness of a person, without which one cannot exist as an individual	9	10	6	16.6
e)	It does not give anything	13	8	12	22
Total percentage of respondents who participated in one question %		100	100	100	99.9
3. What should a person have in order to feel happy?					
a)	Homeland, family, parents, peace, health, faith-belief, sincere trust among people	7	10	13	20
b)	Economic stability, worry-free life, a lifestyle where all desires are fulfilled	17	19	21	38
s)	All the factors that lead a person to live happily and contentedly are necessary	12	14	6	21.3
d)	Contentment achieved through patience, wealth earned through hard work, and a prosperous life attained through waiting	6	5	8	12.6
e)	It is difficult to give a definite answer	8	2	2	8
The total number of respondents who participated in one question %		100	100	100	99.9
4. What material and spiritual values do you think we need to preserve?					
a)	The values that define our identity, honor, and pride	9	10	7	17.3
b)	All the material and spiritual values that served as the foundation for the formation of the nation, people, and statehood	7	10	9	17.3
s)	The values that will benefit our present and future	14	16	14	29.3
d)	Values that are not contrary to modernity	16	12	16	29.3
e)	It is difficult to give a precise answer	4	2	4	6.6
The total number of respondents who participated in one question %		100	100	100	99.8

The figures presented in table 1 reflect the overall statistics of the conducted research, where the individual characteristics of the responses provided by the respondents are not revealed. This is because the answers to the questionnaire were calculated based on numbers, so the research's goal, which is to identify and evaluate the factors leading to the spiritual and cultural deformation of youth, was not considered. We present the “X²-square criterion”^{*} method, which allows us to make precise predictions regarding the solution to the problem in question. What does the use of this method provide us? What are its possibilities? These questions can be answered as follows.

First, in this method, the goal of the questions within the survey is considered, and responses are analyzed according to the predetermined objectives, not based on the quantity of responses.

Second, this method is crucial in ensuring that quantitative changes between questions or surveys do not affect qualitative indicators. This is because the relationship between the questions asked and the responses obtained is interconnected in the research process.

Third, the method helps set the direction of statistical data from simplicity to generality, providing a logical structure for analyzing it and encouraging the identification of specific characteristics. This process aids in finding complementary criteria among research results and determining the efficiency coefficient.

Fourth, the main difference between this method and other approaches is that it allows examining the relationship between abstract answers given to small question sets in a typological manner, helping clarify differential indicators of the obtained results.

Thus, when analyzing the data obtained from the respondents using χ^2 , we define separate criteria for multi-dimensional surveys, that is, the χ^2 coefficient. To do this, we use the following formula:

$$\chi^2 = \sum_{i=1}^m \frac{(E_i - T_i)^2}{T_i} \quad (1)$$

Here:

E_i – value of the factor;

i – empirical value for the factor;

T_i – theoretical value.

It is known that the empirical value is the same as the original value in the table. The theoretical value is determined by the following formula:

$$T_i = \frac{\sum_{j=1}^n x_{ij} \cdot \sum_{k=1}^m x_{kj}}{\sum_{j=1}^n \sum_{k=1}^m x_{kj}} \quad (2)$$

Here:

m – the number of factors;

^{*}Chi-squared criterion (χ^2) method was developed by Karl Pearson in 1900 and is also known as Pearson's goodness-of-fit test. Pearson demonstrated the theory of testing the relationship between experimental data and a model. This model is used to estimate the unknown parameters and to check the agreement between the model and the experimental data.

n – number of criteria.

x_{ij} – represents the serial number of the respondents in the i – factor by the j criterion. By generalizing this formula, the formula for determining the χ^2 coefficient for individual criteria can be written as follows [4]:

$$\chi^2 = \sum_{i=1}^m \frac{\left(E_i - \frac{\sum_{j=1}^n x_{ij} \cdot \sum_{k=1}^m x_{kj}}{\sum_{j=1}^n \sum_{k=1}^m x_{kj}} \right)^2}{\frac{\sum_{j=1}^n x_{ij} \cdot \sum_{k=1}^m x_{kj}}{\sum_{j=1}^n \sum_{k=1}^m x_{kj}}} \quad (3)$$

Using the formulas presented above, we will analyze the results of the survey on the topic “How important are material and spiritual values for you?”* based on the data presented in Table 2, which corresponds to the section of the research conducted among 10th-11th grade students of the 20th General Secondary School in Samarkand region*.

In this example $m = 20$, $n = 3$

$\chi^2_{10/11-s}$ the process of determining the significance coefficient of the respondents' opinions, using the example of 10th-11th grade students, is calculated as follows:

$$\begin{aligned} E_1 &= 10; E_2 = 12; E_3 = 7; E_4 = 16; E_5 = 5; E_6 = 16; E_7 = 7; E_8 = 5; E_9 = 9; E_{10} = 13; E_{11} = 7; E_{12} \\ &= 17; E_{13} = 12; E_{14} = 6; E_{15} = 8; E_{16} = 9; E_{17} = 7; E_{18} = 14; E_{19} = 16; E_{20} \\ &= 4 \end{aligned}$$

$$\begin{aligned} \sum_{j=1}^n \sum_{k=1}^m x_{kj} &= (10 + 9 + 6 + 12 + 7 + 5 + 7 + 6 + 7 + 16 + 24 + 26 + 5 + 4 + 6 + 16 + 14 + 14 + 7 + 9 \\ &+ 9 + 5 + 10 + 10 + 9 + 8 + 5 + 13 + 9 + 12 + 7 + 9 + 5 + 17 + 15 + 16 + 12 + 13 + 10 \\ &+ 6 + 9 + 8 + 8 + 4 + 11 + 9 + 10 + 11 + 7 + 11 + 10 + 14 + 15 + 15 + 16 + 12 + 13 + 4 \\ &+ 2 + 1) = 600 \end{aligned}$$

$$\begin{aligned} T_1 &= \frac{\sum_{j=1}^n x_{1j} \cdot \sum_{k=1}^m x_{1j}}{\sum_{j=1}^n \sum_{k=1}^m x_{kj}} \\ &= (10 + 12 + 7 + 16 + 5 + 16 + 7 + 5 + 9 + 13 + 7 + 17 + 12 + 6 + 8 + 9 + 7 + 14 + 16 \\ &+ 4) \cdot \frac{10 + 9 + 6}{600} = \frac{200 \cdot 25}{600} = 8.33 \end{aligned}$$

$$\frac{(E_1 - T_1)^2}{T_1} = \frac{(10 - \frac{200 \cdot 25}{600})^2}{\frac{200 \cdot 25}{600}} = 0.33$$

Therefore, the analysis of the anonymous survey on the topic “How important are material and spiritual values for you?” conducted among the 10th-11th grade students of the 20th secondary school in Samarkand region shows that the answers represent 100% in percentage terms. The “X²-square criterion” found the overall correlation coefficient between the responses to be 0.33. When applying this result to other schools, the following percentages and coefficients emerged (see table 2).

*This research was conducted in January 2021 at the 20th General Secondary School in Samarkand region.

*If necessary, the results obtained from other research subjects, as presented in Table 1, can also be analyzed in this manner.

Table 2. The results of the questionnaire

Research topic:	
How important are material and spiritual values to you?	
Respondents who participated in the survey	
The overall responses given by the respondents	Samarkand Region
	20th general Secondary School
	10th-11th grade students
	The number of respondents is - 50
Percentage	100%
The coefficient of importance	0.33

In this table, it can be seen that the results from the surveys conducted with 10-11th grade students in three regions show identical figures in terms of percentage or importance coefficient. This raises a legitimate question: how can the responses from independent respondents in three different regions be the same?

5. Explanation

First, the survey participants were the same number from each school (50 respondents were selected from each). Second, the responses were analyzed in relation to the overall response. Therefore, when statistical figures are applied to the “X²-k-square criterion” method, uniformity is observed. In fact, the “X² criterion” method is designed to find correlations between individual numbers, not to evaluate the equality of overall numbers; otherwise, it would turn into a statistical analysis and simply give results in percentage form, like the figures above. Below, we will analyze the answers provided by 10-11th grade students according to the “X² criterion” method. Here, each answer is treated as a separate criterion, and answers that are semantically synonymous or complementary are compared to identify the goal-oriented response. For example, let's consider the results from the first questionnaire in Table 2, using the example of 20th Secondary School in Samarkand region.

The process of considering goal-oriented responses as separate criteria by comparatively analyzing other alternative variants corresponding to the answers of $\chi^2_{10/11-s}$ 10-11th grade students is carried out as follows:

$$E_1 = 10; E_2 = 12; E_3 = 7; E_4 = 16; E_5 = 5$$

$$\sum_{j=1}^n \sum_{k=1}^m x_{kj} = (10 + 12 + 7 + 16 + 5 + 9 + 7 + 6 + 24 + 4 + 6 + 5 + 7 + 26 + 6) = 150$$

$$T_1 = \frac{\sum_{j=1}^n x_{1j} \cdot \sum_{k=1}^m x_{kj}}{\sum_{j=1}^n \sum_{k=1}^m x_{kj}} = \frac{(10 + 9 + 6)(10 + 12 + 7 + 16 + 5)}{150} = \frac{25 \cdot 50}{150} = 8.33$$

$$T_2 = \frac{\sum_{j=1}^n x_{2j} \cdot \sum_{k=1}^m x_{kj}}{\sum_{j=1}^n \sum_{k=1}^m x_{kj}} = \frac{(12 + 7 + 5)(10 + 12 + 7 + 16 + 5)}{150} = \frac{24 \cdot 50}{150} = 3$$

$$T_3 = \frac{\sum_{j=1}^n x_{3j} \cdot \sum_{k=1}^m x_{kj}}{\sum_{j=1}^n \sum_{k=1}^m x_{kj}} = \frac{(7 + 6 + 7)(10 + 12 + 7 + 16 + 5)}{150} = \frac{20 \cdot 50}{150} = 6.66$$

$$T_4 = \frac{\sum_{j=1}^n x_{4j} \cdot \sum_{k=1}^m x_{kj}}{\sum_{j=1}^n \sum_{k=1}^m x_{kj}} = \frac{(16 + 24 + 26)(10 + 12 + 7 + 16 + 5)}{150} = \frac{66 \cdot 50}{150} = 22$$

$$T_5 = \frac{\sum_{j=1}^n x_{5j} \cdot \sum_{k=1}^m x_{kj}}{\sum_{j=1}^n \sum_{k=1}^m x_{kj}} = \frac{(5 + 4 + 6)(10 + 12 + 7 + 16 + 5)}{150} = \frac{15 \cdot 50}{150} = 5$$

The results obtained based on this calculation methodology:

$$\frac{(E_1 - T_1)^2}{T_1} = \frac{\left(10 - \frac{25 \cdot 50}{150}\right)^2}{\frac{25 \cdot 50}{150}} = 0.33$$

$$\frac{(E_2 - T_2)^2}{T_2} = \frac{\left(12 - \frac{24 \cdot 50}{150}\right)^2}{\frac{24 \cdot 50}{150}} = 2$$

$$\frac{(E_3 - T_3)^2}{T_3} = \frac{\left(7 - \frac{20 \cdot 50}{150}\right)^2}{\frac{20 \cdot 50}{150}} = 0.01$$

$$\frac{(E_4 - T_4)^2}{T_4} = \frac{\left(16 - \frac{66 \cdot 50}{150}\right)^2}{\frac{66 \cdot 50}{150}} = 1.63$$

$$\frac{(E_5 - T_5)^2}{T_5} = \frac{\left(5 - \frac{15 \cdot 50}{150}\right)^2}{\frac{15 \cdot 50}{150}} = 0$$

So, it is also important to determine the overall response given by respondents to a single question with five possible answers. This is because by calculating the total number of responses provided by the survey participants, it becomes possible to identify the attitude toward the goal-oriented answer among all the individual responses, each considered as a separate criterion. This process is carried out in the following order:

$$\chi^2 = \frac{(E_1 - T_1)^2}{T_1} + \frac{(E_2 - T_2)^2}{T_2} + \frac{(E_3 - T_3)^2}{T_3} + \frac{(E_4 - T_4)^2}{T_4} + \frac{(E_5 - T_5)^2}{T_5} =$$

$$= 0.33 + 2 + 0.01 + 1.63 + 0 = 3.9$$

If we draw a conclusion based on this response, the feedback obtained regarding the first questionnaire of the survey amounted to **3.9** according to the answers provided by the study participants. The results for the remaining schools* (can be seen in table 3).

Table 3. The results of the questionnaire

Research topic:	
How important are material and spiritual values to you?	
The object of the survey	Samarkand Region
	20th general Secondary School
	10th-11th grade students
	The number of respondents is - 50

*The responses from the next two schools were presented only in the form of final results in order to avoid an excessive number of mathematical calculations. However, if there is a need for clarification, the results can be determined using the calculation methodology described above.

No	Survey question: Which place is the most precious to you?	
a)	Homeland	10
b)	Family	12
s)	Neighborhood	7
d)	A comfortable area to live in	16
e)	It is difficult to give a precise answer	5
Percentage		100%
The coefficient of importance		3.9

6. Conclusion

If we analyze the research results using statistical methods, whether we intend to or not, the obtained indicators are considered relative to the total number of respondents. As a result, in a questionnaire where a single question allows for multiple answers, identifying the responses that align with the intended goal of the question becomes challenging. From this perspective, the “ X^2 criterion” method is considered a universal approach in identifying the dynamics of transitioning from general to specific indicators.

Results of the study:

Firstly, in modern society, cultural integration between nations and ethnic groups is regarded as a “normal state”. This is because scientific achievements, internal and external economic, social, and cultural relations, as well as ongoing diplomatic reforms, naturally lead to such integration. However, under any circumstances, it is essential that a nation preserves its identity and passes down its national values to future generations through healthy transformation. This is its distinctive feature.

Secondly, any statistics reflect generality and are relative when developing a specific hypothesis in relation to real events. However, if the analysis of the obtained results is conducted within a methodological framework, it inevitably transitions from unreality to reality. In philosophy, this process is referred to as the law of transition from individuality to generality, and from there to particularity.

Thirdly, in today's information-driven society, due to the flow of data being greater than its consumption, it is becoming increasingly difficult to identify necessary and essential information. Moreover, the growing attempts to use disinformation and content aimed at negatively influencing human consciousness are deepening existing problems. Therefore, in studying public opinion and attitudes, mathematical modeling is considered more effective than statistical analysis.

Fourthly, the “Chi-square X^2 criterion” is considered a universal and relatively effective method for identifying differences among the results of a conducted study. Unlike statistical analysis, which operates with percentages, it functions based on the significance coefficient of the relationship. Therefore, the results obtained through this method are useful in describing real-world phenomena and putting forward certain forecasts.

Fifthly, the X^2 method is valuable in that it highlights the difference between significant and insignificant responses and is aimed at identifying the significance coefficient of attitudes expressed by respondents. This method

demonstrates its universality by allowing complex tables to be analyzed either horizontally or vertically, and by enabling the derivation of a specific integral value for each response.

The factors above suggest:

1. The results of the study show that we believe that sufficient and continuous scientific studies are necessary to timely and quickly assess the consequences of the processes of spiritual and cultural deformation.
2. It is necessary to develop universal analytical methods that summarize the results of scientific research conducted in this area, and to conduct calculations and analyses based on these methods.
3. To achieve the enrichment of the educational system in terms of content by integrating these studies into primary education processes, based on the need to quickly apply the results of mathematical modeling and universal research into practice.

Declarations

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Consent for publication

The author declares that he/she consented to the publication of this study.

Authors' contributions

Author's independent contribution.

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